IDENTIFICATION OF HUMP HIGHWAY/RAIL CROSSINGS IN KANSAS

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RESEARCH

Introduction

Hump crossings or high-profile crossings are a highway/rail intersection at which the road surface profile across the tracks may pose a risk to low-clearance vehicle that can become stuck on the tracks or to heavy vehicles that must stop on the steep grades. Although states are required to identify high-profile crossings, sign them appropriately and record the information in a database, there is no standard procedure for identifying such crossings.

Project Objective

The primary objective of this study was to develop an effective process to identify and rank crossing where there may be a problem with approach-grade profiles, including physical characteristics of crossings and profiles. Determining the characteristics of the vehicles most likely to be hung up at a crossing and the profile of the crossings at which these vehic les could hang up was a secondary objective.

Project Description

Developing a methodology for hump crossing identification included establishing a project advisory committee, evaluating the existing HANGUP computer program, conducting a survey of Kansas counties and other states, developing a physical vehicle model, and creating a protocol for identification of hump crossings with hang-up potential in the field. The study is limited to hump crossing information and does not cover countermeasures.

Project Results

Most crossings that vehicles had hung up on did not appear to be particularly steep. Hump crossing identification can be made with the HANGUP computer model and verified with a field visit. The state should consider measuring the elevation of approaches to questionable crossings and including this information in the crossing database to make using the computer model easier. A physical model of a vehicle can also be used to determine if a vehicle with a specific wheelbase and clearance would be at risk.

Report Information

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